

Arboretum

BULLETIN

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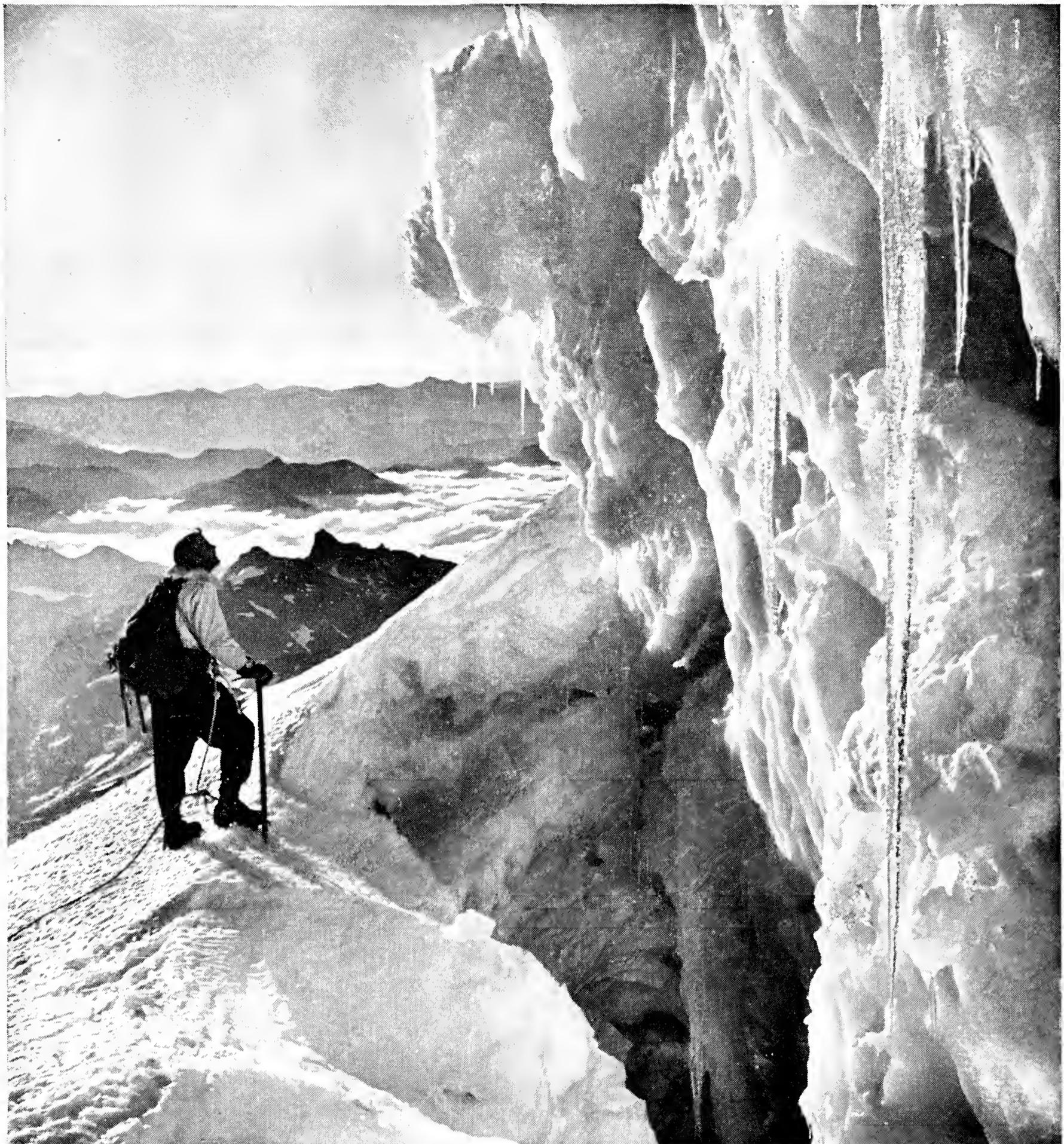
Fall, 1954

VOLUME XVII, NUMBER 3



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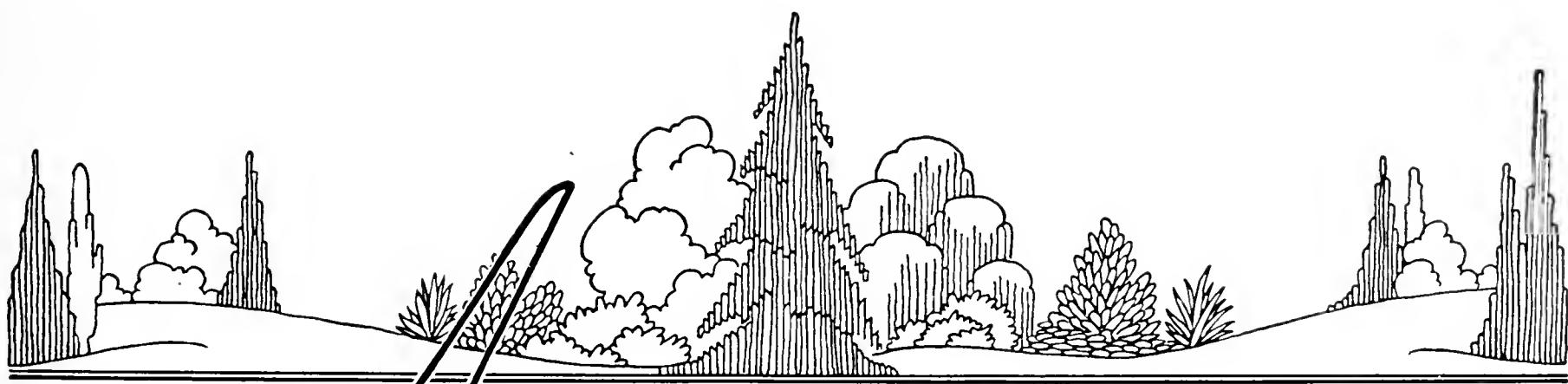
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The Arboretum Bulletin

VOLUME XVII

FALL, 1954

NUMBER 3

The Arboretum in Spring and Summer, 1954

B. O. MULLIGAN

ON LOOKING BACK over the past few months it might be true to say that we have had some disappointments, particularly due to the cold weather in March and early April which spoiled a number of the earlier flowering shrubs, especially the camellias and some rhododendrons, plus the continued showery conditions which produced nearly ten inches more rain than normal during the first six months of the year and induced a weed growth with which our small but busy crew has been unable to cope.

Nevertheless much has been accomplished in maintenance of the older plantings, in new additions in many places, and in other ways, such as our exhibits at three flower shows, the publication of a revised and enlarged information leaflet, supply of plant material to clubs and groups for study purposes, new equipment purchased for both office and Arboretum use, etc. Details of these activities follow.

During this spring, also, the flowering of certain plant groups has been better than average, although, of course, this is partially due to the fact that amongst them are many young shrubs and trees planted between 1948 and 1951, now maturing and becoming large enough to bloom. Amongst them may certainly be mentioned the Asiatic quinces (*Chaenomeles*) and the Manzanitas (*Arctostaphylos*), the native western dogwoods in April, the crabapples, Japanese cherries and azaleas in April and May, brooms (*Cytisus*), peonies and

Chilean fire bush (*Embothrium*) in mid-May, and *Cornus Kousa* a month later. Several new or unusual plants have also flowered here this year for the first time and will be mentioned subsequently.

The Second Lake Washington Bridge

On August 3 the State Toll Bridge Authority formally selected the Evergreen Point to Madison Street site for this proposed bridge which, as has been previously detailed in THE BULLETIN, Winter 1953, pp. 24-26, will considerably affect the present and future state and area of the Arboretum along its northern and western sides.

Although the original route was, at our urgent representations, somewhat modified in order to avoid passing through the center of Foster's Island and the crabapple section north of Lake Washington Boulevard, the precise final route as it passes through the Arboretum, together with that of the connecting southern approach from Madison Street, has still to be defined and published. Until this has been accomplished by the engineer's office, we shall not know just how many plants will have to be removed this winter to a temporary lodging in the nursery, but we anticipate a large number from the areas most affected—in the Pinetum by East Lynn Street, the rectangle just north of the footbridge and through most of the Winkenwerder Memorial area and the lower section west of it towards the Historical Society's Museum.

The rose species, crabapples, mountain ashes, Asiatic quinces, thorns and cotoneasters are amongst the important groups in these areas, but there are also considerable numbers of camellias, rhododendrons, *Cornus* species, true Cypresses (*Cupressus*), pines, junipers and many more to be considered and probably transplanted, involving a large scale operation for our small labor force.

Spring Planting

A considerable amount was accomplished in the four months from early February to early June. That it was possible to continue so long was due to the cool and showery spring and early summer which also has been responsible for the remarkable growth made by most plants this season.

Amongst items especially worth mentioning are the following:

Azaleas—18 additional Glenn Dale varieties near the north end of Azalea Way; 13 Knap Hill varieties and 7 native eastern U. S. species; total (with others) 109 plants.

Hollies—Of *Ilex Aquifolium*, 7 forms new to our collection; 20 other plants representing eight different species.

Conifers—Amongst others planted were the Canary Island, Sugar, Stone, and Mexican white pines and *P. Massoniana* from Eastern China; *Cupressus Duclouxiana* from Western China; the Japanese Umbrella pine (*Sciadopitys*); China fir (*Cunninghamia*), and the related *Taiwania*, one of the "coffin trees" of Western China and adjacent Burma.

Magnolias—17 kinds planted in three different locations, two being on Azalea Way; chiefly Asiatic species or hybrids but including a group of four plants of the Swamp Bay (*M. virginiana*); total 33 plants.

Maples—A further nine kinds added to the collection, mostly of Asiatic origin and planted west of the magnolia area; 14 plants in all.

Rhododendrons—Named hybrids or young plants of ten new crosses, 78 plants. Also planted were *R. bullatum*, *R. sinogrande*, *R. Thayerianum* and a few other species.

Miscellaneous—*Aesculus carnea* var. *Briotii*, the red horse-chestnut; the western *Catalpa* (*C. speciosa*), a group by Azalea Way; *Eri-*

obotrya japonica, the evergreen Japanese loquat; *Cordyline indivisa* from New Zealand; *Decaisnea Fargesii*, a tall shrub from Western China with blue, bean-like fruits; the Chinese *Nyssa* (*N. sinensis*), propagated from native seeds; *Vaccinium glauco-album*, raised from seeds collected in Bhutan in 1949, and the grey-leaved, shrubby "Jerusalem Sage" (*Phlomis fruticosa*) from southern Europe. Most of these were raised here from seeds, excepting the *Aesculus* and *Eriobotrya*, received as plants.

New or Unusual Plants Flowering

Some of these have been: *Camellia saluenensis* and several forms of its hybrid *C. Williamsii*; most of these bloom in February and March, have profuse pink, more or less bell- or saucer-shaped flowers and are a most promising group of shrubs for Northwest gardens. *Carpenteria californica*, an evergreen sun-loving shrub which flowered in three years from seeds; *Cercis chinensis*, the Chinese redbud, planted spring 1950; *Embothrium lanceolatum*, the Chilean firebush, 14 feet tall, a magnificent sight in the latter half of May and early June with its fiery red blooms; *Forsythia* "Farrand," raised at the Arnold Arboretum, one of the best of its race for size and quality of the golden flowers; *Hoheria glabrata*, native of the south island of New Zealand, having cherry-like white flowers in July; the evergreen Chinese *Magnolia Delavayi*, for the second year; in August the white *Leptospermum pubescens* from Australia, the only species so far found hardy here, and *Stewartia ovata* var. *grandiflora*, native of the mountains in Georgia, Tennessee and the Carolinas, but apparently slow and shy to bloom in cultivation. The two species of *Sinojackia* and their relative the *Rehderodendron* are described elsewhere in this issue.

Public Relations

(a) Donations for specific purposes have been even more numerous and generous this spring than previously and included the following:

Arboretum Units Council

For tape recorder.....	\$ 127.17
For general purposes	1,000.00
— Unit No. 8 (Else Frye)	
For books	43.65

— Unit No. 10	
For maintenance	35.00
— Unit No. 30	
For peony plants	37.00
— Unit No. 37	
For bulbs	35.00
— Unit No. 41	
For a second pair of “Vocatron” Intercom units	68.64
Mr. Ceber Baillargeon	
For books	105.00
Mercer Island Garden Club	
For Winter Garden	150.00
Seattle Audubon Society	
For sign on Foster's Island.....	45.00
North End Flower Club	
For maintenance	50.00
Seattle Garden Club	
For fertilizer	68.00
For azalea plants (imported)	130.50
For maintenance	375.00
Snoqualmie District, State Federation of Garden Clubs	
For tree for Arbor Day planting.....	18.50
Total.....	\$2,288.46

The large gift from the Arboretum Units Council is being used in part for additional help in the greenhouses during the busy summer season, and for the new colored postcards now on order. That from Unit No. 8 was chiefly spent on additional volumes of Hegi's valuable work, "Illustrierte Flora von Mittel-Europa," which we are gradually acquiring.

With Mr. Baillargeon's contribution we purchased the three volumes of F. A. Michaux' "North American *Sylva*" (1857-65) containing 156 colored plates originally drawn by such famous French artists as the Redouté brothers and Bessa, early in the 19th century.

The gift for bulbs is being spent on daffodils —100 bulbs each of six varieties. Nine varieties of Knap Hill azaleas were obtained from the raisers in England with the Seattle Garden Club's contribution; in addition to these, six other varieties of these fine hybrids were obtained from a Washington nursery and given us by the same club for eventual planting on Azalea Way.

(b) Tours have been somewhat fewer this year than last. For the months of March to July inclusive the total number of visiting groups were: 1953, 48; 1954, 36.

(c) Telephone calls for information have been almost the same for the two years during this period: 1953, 622; 1954, 633.

(d) Exhibits using flowers or plants from the Arboretum were set up at the Camellia

Show of the Amateur Gardeners in April, the Seattle Rhododendron Show in May, and the Seattle Rose Society's Show in June. In addition, flowers for display purposes were supplied regularly each week to the University Book Store, from early April through mid-June, while various plant materials for garden clubs or Arboretum units were supplied on thirty occasions.

(e) Publications. A revised and enlarged information leaflet was published in July, including all previous features and adding a short calendar of the most attractive plants through the year. This is available from the Arboretum office on request.

Four new colored postcards have been ordered, of the fire bush (*Embothrium*), groups of *Azalea Kaempferi* and *A. arnoldiana*, and *Rhododendron "Azor"*, all at their peak of bloom.

Equipment

In the Arboretum the most recent addition is an Allen motor scythe with 36-inch cutter bar. This has already shown its worth on some of our steep banks where previously it was impossible to take any mechanical mower; if we had obtained it earlier in the summer the grass would not have grown so long in some quarters.

On the office counter we now have for our literature a display cabinet made of oak by the Carpenters Shop of the Buildings and Grounds Department of the University. The two sets of Vocatron intercommunication units donated by Arboretum Unit No. 41 for use between the offices, greenhouses and clubhouse, have proved extremely useful and save much time and walking between the buildings.

International Seed Exchange

In mid-December, 1953, we sent out to co-operating institutions and individuals 182 printed lists of the 347 available kinds of seeds of which 76, or nearly 22 per cent, were of native species, either wild in the Arboretum or collected in the state. Nearly 75 per cent of these lists went to foreign countries. More than one hundred requests for seeds were received and filled as far as supplies permitted,

(Continued on Page 89)

Eucalyptus for the Washington, Oregon, Vancouver Seaboard Region

D. MARTIN*

THE DIRECTOR of the University of Washington Arboretum, Mr. B. O. Mulligan, has done me the honor of asking me to write this article. I do so with some diffidence because my personal experience with this region is slight and I must base my suggestions on the kindness of local Eucalyptus enthusiasts who have supplied me with information on a survey I made recently on the Eucalyptus in the British Isles and on the experience of ecological studies in my Tasmanian island home.

The rainfall of the region in question appears quite adequate and the success or failure of Eucalyptus culture will depend largely on minimum temperatures. However, there are several peculiarities of the genus which must be emphasized at the outset, for many of the disappointments have been due to a lack of familiarity with them.

The first is that all Eucalyptus species, with only three possible exceptions, will not tolerate wet soils; drainage must be perfect. Some shallow-rooted types may evade a water table a foot below the soil surface but for really satisfactory results use a deep, free-draining soil. Old moraine or talus are often ideal.

The second is that Eucalyptus naturally hybridize freely even in the native forests. Unless the tree is an isolated specimen there is even no guarantee that the flowers have been "selfed" under open pollination. Many growers have been dismayed by the bewildering variation in the seedlings coming from a supposedly pure line of seed. The disappointing hardiness of generally hardy species is often due to this.

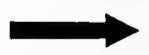
The third is that growing conditions make a great difference to survival; sudden frosts after a period of quick growth often do great damage even to hardy species. Strangely, Eu-

lyptus usually grow much better and faster abroad than they do here. During their evolution in Australia they have become so intimately associated with insects that feed on them that when the insects are left behind in Australia the trees grow fast and furiously. This excessive top growth often reduces their hardiness, makes them topheavy and alters their typical shape. Species I have known all my life here have presented a quite unfamiliar appearance when encountered abroad. Australian soils also tend to be poorer than in the northern hemisphere, which further stimulates growth in this new environment. Therefore, do not be diffident about planting an Eucalypt in a poor, rocky soil; so long as it is deep and well drained its growth will surprise you. Moreover, don't hesitate to cut it back. You will be doing it good and you can scarcely do it much harm.

In most Eucalyptus species the juvenile foliage is strikingly different to the adult form. It is usually the more attractive and most gardeners will try to maintain some of their trees in the juvenile state by heavy pruning. This may make them less hardy and also keeps the sensitive parts of the tree nearer the frost zone.

Most of the Eucalyptus species likely to suit your climate come from the mountains of Tasmania where rain falls all through the year and the summers are cool and the winters not particularly cold. The information on hardiness of such species comes mainly from the study of specimens planted in England, Scotland and Ireland during the '70's, '80's and '90's of last century and the frosts they have been known to survive, or the temperatures that have killed them. The impoverishment of the large estates has removed many of the plantations, but two large collections still

*Mr. Martin is Officer-in-Charge of the Tasmanian Regional Laboratory, Commonwealth Scientific and Industrial Research Organization, Hobart, Tasmania.

 *Eucalyptus Perriniana* in Arboretum nursery,
12-14 feet tall, September, 1951

(Fig. 11)

—PHOTO BY E. F. MARTEN



remain, that of Mr. Walpole, Mt. Usher, Co. Wicklow, Ireland, and that of Major Birkbeck at Kinlochhourn, Invernesshire, Scotland. The former is particularly well preserved and documented. From these and other estates and the experience of smaller collections, it has been possible to build up a picture of cold tolerance based on 60 years of records. This is now being reinforced by the experience of growers in your own region who have supplied me with valuable information.

For convenience I have divided them into three groups:

- (a) Those which have survived 0° F. sometimes and which seem little affected by 5° F.
- (b) A similar 5° F., 10° F. group.
- (c) A similar 10° F., 15° F. group.

GROUP (a). 0°-5° F.

There is only one species which falls in this category—*E. Gunnii*. It has proved the most consistently hardy in collections of species exposed to temperatures between 0° and 5° F. The oldest tree outside Australia is a splendid specimen of this species planted from Tasmanian seed in 1846 in the grounds of Whittingham Castle. Whittingham Castle is east of Edinburgh and not a particularly mild region. Records show that this tree has frequently been exposed to temperatures of 5° F. Seed from this tree has been planted all over Britain under the name of *E. whittinghamensis*, and has generally proved as hardy as the parent. *E. Gunnii* grown from seed from other Tasmanian sources have also proved equally hardy. There are some particularly good specimens near Brightlingsea in Essex which have come through since 1867.

Strangely, some growers in your Pacific Coast region have had some failures with it though Mr. S. R. Forrest of Vancouver rates it as hardest in his collection. Its virtues are its hardiness and an attractive juvenile foliage of small, oval, silver-grey leaves; its drawbacks are a rather somber adult foliage, a tendency to shallow rooting and instability, and poor quality wood. In Tasmania it grows as a small tree on the central plateau where it is known as the cider gum, because the hardy,

and thirsty, pioneers fermented an infusion of the leaves into a kind of cider.

GROUP (b). 5°-10° F.

In this group is included *E. coccifera*, *E. niphophila*, *E. subcrenulata* (= *E. Johnstonei* = *E. Muelleri*), *E. vernicosa*, *E. parvifolia*, *E. urnigera* and *E. aggregata*.

E. coccifera is the species fringing the tree line on the Tasmanian mountains. Though it grows at higher altitudes than *E. Gunnii* it is not as hardy. There are, however, many fine specimens in Britain over 50 years old. There is one in the grounds of Powderham Castle in Devon, one in the Botanic Gardens in Dublin and a great number at Loch Hourn on the West Coast of Scotland.

It is quite a handsome tree with a smooth, buff-colored bark streaked with red, it makes good firewood when dry and will stand a lot of wind. Its weakness is an extreme sensitivity to ground water, and most of the disappointments with this species are due to this, but if you want a tree for a steep rocky hillside with a good depth of well-drained talus you can't do better than this. *E. niphophila* is the tree line species on the Australian mainland and we have had less experience with it. There is a tree 15 years old in the Edinburgh Botanic Gardens and it has performed reasonably well in Vancouver and Victoria, B. C. It also requires a well-drained soil and is slow-growing.

E. subcrenulata is not quite as hardy as these but is even more handsome with very glossy green leaves and a brown olive trunk becoming streaked with dull scarlet during bark-fall. It is also a tree of rocky slopes but can stand more water around its roots and more acid soil than *E. coccifera*, but it cannot stand wind so well. The timber is very dense and heavy.

The Loch Hourn plantation has several magnificent trees over 50 years old but this species is not as popular as it deserves as inferior types (often called *E. Muelleri*) were used instead of the hardest strains.

E. vernicosa and *E. parvifolia* are low, bushy types and not typical of the genus but have proved quite hardy.

E. urnigera is also a tree of the rocky

mountain slopes. It derives its name from the graceful urn-shaped fruits. It is slow-growing and sensitive to wind and of little economic value. Although it is found on only a few mountains in Southern Tasmania there are several strains. Those growing at the higher altitudes are naturally hardier and have a silvery grey juvenile foliage while those from lower altitudes have bright green juvenile leaves.

There are some very fine old specimens of this species in England and Ireland and until about 1943 there was a large tree in the Edinburgh Botanic Gardens.

E. aggregata can probably be placed in this group though we have not yet had enough experience to be certain. It is not as handsome as some of the others, lacking a distinctive juvenile foliage and having a rather dark green adult appearance.

GROUP (c). 10°-15° F.

This group includes two very interesting ornamental types, *E. Perriniana* and *E. cordata*, and two forest giants, *E. gigantea* and *E. Dalrympleana*, and a savannah woodland tree, *E. pauciflora*.

Even if your temperatures are colder than this group, *E. Perriniana* is worth a trial for the sake of its spectacular juvenile foliage. The two oppositely borne leaves are fused together into a circle round the twig and in a well-grown specimen the stem of the young branches appears to be threaded through a series of silvery green discs (fig. 11). In this form it has been used most effectively as a background for floral arrangements by Constance Spry of London and in the flower decorations at Government House here at Hobart during the visit of Her Majesty Queen Elizabeth.

The trees grow out of this juvenile form at about 10 feet but by severe pruning can be maintained in it. Under favorable conditions it can be induced to flower under such treatment and you have the added attraction of small, creamy-white, fluffy balls borne in the axils of the stalks and leaves.

At my former home at Huonville, Tasmania, I planted a 10-foot hedge of this species which

had been held in the juvenile stage for 15 years by pruning.

E. cordata is not quite as hardy as *E. Perriniana* but is almost as beautiful. It has large, rounded, silvery grey leaves which it never loses. There seems to be no adult stage in the pure-bred species. The flowers are larger than *E. Perriniana* and are borne in threes in the axils of the leaves; sprays of young twigs in flower make delightful house decorations, but like most Australians are very thirsty.

E. gigantea is one of our most useful timber species; it grows a fine straight bole and often reaches a height of 150 feet. Some strains have proved very hardy and others quite tender. The juvenile foliage is quite striking, large, blue-grey, oval leaves 4-6 inches long, but the tree soon grows out of them and it is not easy to maintain it in this stage by pruning. The adult form is wind- and drought-resistant and, unlike all the others mentioned here, has a fibrous and not a smooth bark. Its size makes it uncomfortable for a small estate, but anyone in a mild area with a large, well-drained, rocky hillside who wants a useful group of quick-growing hardwoods would be advised to try this species.

E. Dalrympleana is less well tried but has been very successful over the past ten years in England. It is a handsome timber tree and grows quite large. The juvenile foliage is very beautiful, large, rounded silvery-grey leaves, but inclined to be tender.

E. pauciflora is the tree of our cold windy alpine plains. The hardiness varies very greatly and it is difficult to get good strains. There is one with very pendulous branches like a weeping willow, but it has proved to be rather tender. The trunk branches early and the tree can be very picturesque but it has little value except as firewood.

CONCLUSIONS

This covers the species I feel would be most likely to be useful. *E. cinerea* and *E. pulverulenta* could be included in the last group but they are rather similar to *E. cordata*. For smaller areas *E. Gunnii*, *E. coccifera*, *E. Perriniana* and *E. cordata* might be

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An Appraisal of Rhododendrons

HERBERT G. IHRIG*

I AM somewhat disturbed over the title given my talk as I have always considered an appraisal presupposed an expert knowledge of the subject appraised.

There was a time when I felt I could qualify, but I was younger then and the passing years have brought a realization of the fact that there is still much I have to learn.

I do feel, however, that I can qualify as an observer for I have grown Rhododendrons for over twenty-five years. I started by importing some of the fine English hybrids and continued for several years adding to my collection, in conjunction with Mr. Endre Ostbo.

I then became interested in species and communicated with botanical gardens, seed sources and individuals in England, India, China and elsewhere. I subscribed to several botanical expeditions, including the Rock Expedition for the University of California. I carried on extensive correspondence with prominent growers and scientists in Great Britain and America such as Lionel de Rothschild, Mr. F. R. S. Balfour, Sir William Wright Smith, Mr. Clement Bowers, Dr. Donald Wyman of Arnold Arboretum, and many others.

I have grown several hundred different species from seed and have continued to import hybrids until a few years ago.

Whether this experience qualifies me to speak on their garden value is a moot question. Some may agree, others disagree. But I have formed some definite opinions based on these observations.

Before expressing my opinions let me state that my remarks are directed to the gardener, not the collector or the experimenter. I realize these classifications often overlap, but let us think primarily of the individual who wants an attractive garden.

First, species. I am a great admirer of species Rhododendrons and there are a num-

ber which I would not be without. But I am likewise firmly convinced that most of you would be far better off if you never heard of species Rhododendrons. Certainly nothing will clutter up a garden more than trying to grow every three- and four-star species you hear about.

Let us consider a few illustrations. Take the *Lapponicum* series. Here are plants which are very useful and attractive in many gardens. The handbook lists 52 different species and 17 of these are credited with garden value. But how many could you use? Four? Maybe six? But for the others you would need a botanist to identify them and I am sure they would depreciate the beauty of your garden rather than enhance it.

Next take the tree rhododendrons. Nothing I know of is more thrilling to contemplate than a 40-foot rhododendron tree—one like *R. barbatum*—with its tight trusses of brilliant red. But few people realize the length of time it takes to mature such a plant. Kingdon-Ward, in discussing tree rhododendrons, said something to the effect that in twenty years you would know something of their growth, in forty years something of their beauty, and in sixty years something of their grandeur. When my *R. barbatum* was twenty-three years old I had a very creditable showing but had few flowers before or since. The same is true of many so-called tree rhododendrons, some of which grow as much in width as in height.

I am often shown small plants of such species by some charming grey-haired lady who beams with the pleasure of acquiring them. She asks how soon they will bloom. Now it is impolite to ask a lady how old she is, so I frequently compromise and ask if she has any grandchildren.

Next the *Triflorum* series which is among my favorites, and there are many fine species in this series. The beautiful white *R. caeruleum*, a good colored *R. yunnanense* or *Augustini* will add beauty and interest to a

*The stimulating talk given by Mr. Ihrig, one-time editor of THE BULLETIN, to members of the Seattle Rhododendron Society, March, 1954.

garden IF YOU HAVE THE PROPER PLACE for them. But they cannot be planted promiscuously. Their delicate colors and lace-like filaments will be overpowered by heavy broadleaf varieties and brilliant colors.

I could go on at length through the different series. I could point out many beautiful things but that would only confuse the issue. You might catch some of my enthusiasm to the detriment of your garden.

If you wish to try out some species I would suggest you begin with the smaller-growing ones such as *R. Williamsianum*, *leucaspis*, *pemakoense*, *callimorphum*, etc.

Hybrids. Some people feel that there is greater beauty in hybrids than in species. I do not share this opinion but firmly believe the average gardener would be far better off to start with hybrids of known merit than with species. In many cases hybrids have improved form, color and hardiness and they will certainly adjust themselves better to general garden conditions.

But here you require the greatest restraint. You had better start by firmly fixing your objective. Do you want to be a collector, an experimenter or a builder of a beautiful garden?

Collecting is a disease and once you get the bug you are sunk. I know, for I am a collector. An experimenter is just an ornery guy who likes to find out for himself. I know, for I am also one. Both groups contribute much to knowledge of the genus and the individuals derive much pleasure from the pastime, but they seldom if ever build a beautiful garden. If you are in the third group and want to build a garden you must learn your three "R's"—restraint, restraint, restraint.

Don't try to buy blindly all the three- and four-star hybrids or all those which have received Awards of Merit or First Class Certificates. Get a dependable nurseryman—talk with him, take his advice, discriminate.

Begin by learning what these awards and stars mean. A star means that in the opinion of competent growers a plant has definite garden value according to the number of stars given it. These ratings represent experience

and mature judgment. You may disagree with some, but they merit consideration.

Awards of Merit and First Class Certificates have no such background. They are, in most cases, new plants of interesting bloom and characteristics but comparatively untried. Their habit of growth, hardiness, and many other factors are largely unknown. Some will undoubtedly take a leading role in future gardens, but they rightfully belong to the experimenter.

Next, don't get fouled up with the forms of named varieties. For instance, we have *Fabia* var. *Tangerine*, var. *Roman Pottery*, etc., etc. This is true of many others. These differences are sometimes very real but often minor. Give them consideration when buying, but don't try to acquire all of them.

This problem of varieties has troubled me for years. I am even suspicious of star ratings until they have stood the test of years. Every year I have seen a new array of debutantes flash like stars on the horizon, only to pass into oblivion in a short time. I have a number of these deb's of yesteryears. Some, like Mrs. Henry Agnew, had three stars in 1934 and yet is not even listed today. Yet there are old dowagers like *Cynthia* and *Loderi*'s *White* that have withstood competition year after year and still rank with the best. *Cynthia* was introduced nearly a hundred years ago.

Don't belittle these newcomers, but don't go overboard in acquiring them.

In addition to selecting proven plants, get those suitable for your location, especially as to wind, sun, and general hardiness. Take for instance the fact that I or someone else can grow *Cornubia*. This doesn't mean that you can. It is a magnificent plant, but many nurseries have discarded it because they had so many complaints on its hardiness. In whites nothing can be finer than *Loderi King George* provided it has a suitable location. But in a poor location exposed to wind it can be a deplorable sight even when in flower. Beauty of *Littleworth* is another fine white, but has a truss so heavy that in the rain it invariably droops and spoils the beauty of the entire bush.

It is easy to criticize individual plants but don't lose sight of the fact that there are hundreds of others to meet your requirements, and that Rhododendrons are among the loveliest of all garden plants. I know of nothing comparable in all-year beauty and interest.

In the past few decades there has been a revolution in garden design and this has been greatly influenced by the influx of species Rhododendrons and their hybridization. Prior to that time this beauty had flowered for ages behind the mountain bastions of Asia unseen and unknown to the world at large. Now this wealth has suddenly come into our hands. We—you and I—your organization—are the heirs and custodians. It is a responsibility much greater than would appear at first sight, for in no place in America and few places in the world can they be so successfully grown as here. It is a challenge for you to accept or reject.

What are you doing about it—gardenwise, I mean? There are splendid nurserymen who have spent time, effort and money to bring you the best in hybrids and species. But what about their proper use in the garden? I have seen many beautiful spots or small plantings, but few really beautiful Rhododendron gardens. Most of them look like mine—a lot of plants crowded together like an overstuffed museum. I am particularly conscious of our failure to take advantage of our opportunities since my trip to Japan where I was able to observe how truly beautiful and functional a garden can be when it is developed around the cultural background and living habits of the people. I am frequently asked about those gardens and about new Japanese plant material. I saw many gardens but little in the way of new material because I was not there during the flowering season, and Tokyo, my headquarters, is perhaps the poorest place in Japan for flowers and gardens. The Japanese people have not had the time or the money to do much in the way of new developments. Their efforts have necessarily been confined to food crops and such horticultural products as can be readily put

into the streams of commerce. Even the Arboretum of the University of Tokyo, while continuing their botanical studies, have no funds for maintenance and the grounds are in a deplorable condition. The water garden, often mentioned as one of the best in Japan, was completely bombed out during the war and is now only a large muddy pond with fallen stone bridges and a few plants struggling through the debris.

There are beautiful gardens all over Japan for every temple and shrine is, in a sense, a garden, but it is in Kyoto that one finds the most beautiful of Japanese gardens. I would like to pass over the large gardens such as the Imperial Gardens and those of the Detached Palaces and Imperial villas. These have many beautiful and interesting spots, but are usually too "parklike" for my theme. There is no intimacy about them such as we desire in a garden. The exception is the Emperor's private garden which is something very special and highly personal. This garden could easily be accommodated on many Northwest properties if one had the talent, money and time which have gone into its making and material.

It is in the smaller private gardens where I received my greatest thrill for they have an elusive charm which is difficult to capture or define. It is not entirely a love of beauty nor the cultural and religious background yet undoubtedly each of these contributes something. They can best be described as a beautiful mosaic in which every tree, shrub and stone is placed with the studied artistry of a master painting.

There are things which make you green-eyed with envy such as a century-old pine, but the style and design of a Japanese garden is as far from a Northwest garden as a Greek temple is from a modernistic home. They do not fit our background or living habits. They cannot be copied but can furnish many an inspiration.

To me the greatest inspiration is the beauty we could create if we developed a truly Northwest garden—one which fitted our cultural background and habits of living as effectively

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New or Unusual Plants in the Arboretum

B. O. MULLIGAN

(Continued from Fall, 1953)

3. *Sinojackia Rehderiana*

The family *Styracaceae* contains a number of excellent shrubs or small trees, some of which are suitable for almost any garden (e.g. *Styrax japonica*), others require more space to display their beauty (e.g. *Halesia carolina*). The family includes about thirteen distinct genera, of which perhaps only six are in cultivation, while of the 140 known species of *Styrax*, spread chiefly over Asia, North and South America, possibly a dozen or so are or have been grown in gardens of Europe or North America. In the Arboretum there are half a dozen, though not all have yet flowered.

Between 1920 and 1940 four new genera of *Styracaceae* were discovered in various parts of China—*Huodendron*, *Meliiodendron*, *Rehderodendron*, and *Sinojackia*—the names formed from those of distinguished botanists or plant collectors, with the suffix *-dendron*, a tree, or prefix *Sino-*, meaning Chinese.

In the winter of 1948-49 the Arboretum was able to import plants of two species of *Sinojackia* from a nursery in England—*S. Rehderiana* and *S. xylocarpa*. They were first grown in pots in the greenhouse until established, then in the lath house and nursery until large enough to be moved out to permanent sites in the Arboretum, the latter in March, the former in November, 1951. In the meantime also cuttings had been taken and rooted from both in order to have a stock of young plants growing on.

The first flowering of both species occurred in May this year, but that of *S. xylocarpa* was so sparse as to give no proper idea of its quality or value as an ornamental small tree. Professor H. H. Hu, then of the Department

Below:

Sinojackia Rehderiana at northeast corner of Camellia collection.

(Fig. 12)

—PHOTO BY E. F. MARTEN



of Botany, National South-eastern University, Nanking, China, who described both plants, believed that they would prove to be the most beautiful of the four new genera, and that *S. xylocarpa* would be more attractive than *S. Rehderiana*.*

As the photograph (fig. 12) shows, the latter is an upright, single-stemmed shrub, now about 8-9 feet tall, bearing loose, pendulous inflorescences of open, 5-6 petalled white flowers produced as in *Halesia* whilst the leaf shoots are still developing, and therefore easily seen. The mature leaves are thin, tough, obovate elliptic, serrulate, with a short acuminate apex, somewhat shining on both sides, prominently veined, about 4 inches long, $1\frac{3}{4}$ inches wide, borne on a short ($\frac{1}{4}$ -inch) stalk.

In our plant of *S. xylocarpa* they are more often elliptic in shape, up to 5 by $2\frac{1}{2}$ inches, thicker, tougher and more glossy on both sides, but the fact that this plant is still growing vigorously may account in part for the difference in size.

Both species are native in eastern China, *S. Rehderiana* being more southern in habitat, but so far have proved quite hardy in Seattle, although they have not had to endure any temperature below 12° F. since they were planted, and that for only one night in January last.

It may also be worth mentioning that the Arboretum possesses a flourishing young specimen, now 11 feet tall, of the related tree *Rehderodendron*, presumably *R. macrocarpum*, native of Mt. Omei in western China. This was received as a small plant in April, 1938, from the Arnold Arboretum, but during the war years in the nursery lost its label and has only been identified again from a few flowers produced in May, 1954. More details of this rare plant must await another occasion when perhaps a photograph of the flowers may be available.

*“On Some Interesting New Genera and Species of *Styracaceae* in China.” H. H. Hu in “New Flora and Silva,” XII, (3) 146-160, (Aug. 1940).

Report on Arboretum Winter Damage, 1953-54

J. A. WITT*

AFTER the unusually mild winter of the previous year, the cold snap we experienced in mid-January, 1954, seemed rather severe. However, since the coldest period was accompanied by heavy snow—up to one foot on Azalea Way—only the very tender plants suffered. We lost *Acacia melanoxylon* and *A. armata* at this time, with severe damage to *Acacia decurrens*. Some of the *Eucalyptus* species were badly damaged, especially *E. Gunnii*, *E. Favieri* and *E. Macarthuri*, but all are putting out new shoots from the base. Other *Eucalyptus* were scarcely burned, indicating they can stand temperatures of 12° F. for at least a short time.

Of course the location of any given plant determined to some extent the amount of damage which occurred. *Cornus capitata*, an evergreen dogwood from the Himalaya mountains, was burned severely where the plant was

exposed to the northwest; in more sheltered areas it survived with only minor leaf scorching.

Although the snow saved many plants from freezing damage, it was responsible for some breakdown, especially to the *Rhododendrons*. The damage would have been even worse if the ground crew had not removed as much snow as possible immediately after the heaviest falls. As it was, we lost only a very few plants, all of which were duplicated elsewhere.

Surprisingly enough, most of the damage occurred in the spring months. There were three days of cold, dry wind accompanied by frost down to 24° F. in the latter part of March which blasted buds on a number of plants normally quite hardy here. Some of the tender *Ceanothus* were badly burned by the wind, as well as some of the less hardy *Rhododendrons* such as *R. scopulorum* and

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*Mr. Witt is the Recorder at the Arboretum.

Arboretum Spotlight

The Harlequin Glory-bower *Clerodendrum trichotomum*

IN LATE summer days—August and September—a very welcome sight, particularly in those gardens not featuring annuals and perennials, would be the very handsome shrub known as Harlequin Glory-bower, *Clerodendrum trichotomum* (fig. 13).

It regularly covers itself in the waning days of summer with pleasantly scented, creamy-white flowers in long-stalked clusters protruding from the reddish-brown calyx, sometimes of equal length, like a flower within a flower, the long stamens dancing and nodding above.

These are followed by glossy steel-blue berries while parts of the calyx turn to crimson, affording a delightful contrast in color

and extending the attraction on through October and November.

A native of eastern China and Japan where it is in habit a small tree to 20 feet, it may and often is treated as a shrub by cutting back each spring before the growth appears.

The Arboretum's Harlequin, just south of the Cistus collection on the Upper Road, is due to put on its show, "flaunting its parti-colored tights" in mid-September.

GENE WEBB

Below:

Clerodendrum trichotomum in the Arboretum.

(Fig. 13)

—PHOTO BY E. F. MARTEN



A Christmas Tree with a Future

PAT BALLARD*

"The tree itself is a beautiful young fir dug up from the plantation, roots and all, and planted in a huge flower pot. After Twelfth Night it will be carefully replanted in its old place to dig in its toes again and go on growing."

THE HAPPIEST OF MEN
E. E. FEARON

TWENTY-ONE million Christmas Trees!

Twenty-one million black spruce, white spruce, Norway spruce, white pines, Scots pines, Southern pines, Douglas firs, balsam firs, white firs, and alpine firs. These are just a few of the species of conifers cut each year as Christmas trees. Though we know that supervised and proper harvesting is a part of conservation, it is hard to believe that the beautiful alpine fir (*Abies lasiocarpa*), with its sweeping petticoats, grows so profusely as to need thinning by the hundreds of thousands. Small wonder that we are hearing more and more about Living Christmas Trees.

The tradition of the decorated Yule tree is deeply embedded in our culture and certainly none of us would want to see synthetic trees substituted for these members of the Pine Family. But would not a living tree symbolize the birth of the Christ Child with richer meaning? Children seem to be especially intrigued with a tree that can go into the garden instead of the ashcan. The danger from fire is greatly lessened by the green foliage of a living tree.

Mr. Arthur M. Sowder, of the Department of Agriculture, has suggested that the planting of the tree on New Year's Day be made a part of our Christmas tradition. The better part of wisdom would be to prepare the planting spot before the activities of the holiday season begin, and in case the new year might be ushered in by King Frost. The choice of the tree should be made when you and the nurseryman are not too hurried.

We no sooner became interested in living

Christmas trees than we began to hear about other enthusiasts. What had seemed like a wonderful new idea to us has been a matter of long tradition in many families. The modern trend of bringing the garden into the house by means of pots, tubs and planting boxes makes the idea less revolutionary than it would have been a few years ago. Should your choice be one of the more slowly growing conifers, it could be used several years in succession. One friend told us of using the same Douglas fir for three Christmases, and growing it in a wooden container in the patio during the rest of the year. A tree used in this way needs careful treatment, regular feeding and almost daily watering.

As always, friends in the nursery business were most generous with good, practical advice. They emphasized the importance of choosing a tree of conservative size. Six feet is a good maximum, four might be better. Don't forget that the depth of the rootball will be added to the height of the tree, and its weight must be considered since a strained back adds nothing to the season's fun. Do measure the width of the door through which your tree must enter. The spacing of the branches, sturdy structure, and dense form are important, as bringing a plant into the house makes it appear less compact than it does out of doors. The container must be waterproof, for the sake of your floors, and because the welfare of the tree depends on the moisture it receives during the indoor visit. Buy a freshly dug, well-balled tree and place it in its container several days, or even weeks, before it is brought into the house. Never let its rootball dry out. It should be packed in damp peatmoss and watered often but discreetly, for few trees and shrubs are happy with wet feet. Spray the foliage with water before the tree is brought in and again when you take it out. This will remove any dust which might gather on the needles. Place it in a cool corner of the room away from any direct heat, and remember that more than a

*A modern approach to one of our earliest traditions, which Mrs. Page Ballard, of the Editorial Board, handles with her especial enthusiasm.

week indoors lessens your tree's chance of survival for another Christmas.

A living tree may be decorated in any way you choose, but large lights give off too much heat, and even the small ones probably should have reflectors.

There are trees for every taste, be it for the stylized or naturalistic, modern or traditional. There are many dwarf forms to be used for miniature trees on table or mantel. Sargent's weeping hemlock (*Tsuga canadensis* var. *pendula*) placed so that it is seen from below would be a conversation-piece in any language. A small Norfolk Island pine (*Araucaria excelsa*), with its precise branching pattern would lend itself to formal treatment. Dr. L. H. Bailey calls it an "excellent house plant" and suggests that this tree from the southern hemisphere be grown in a cool room near a window. In summer it might be put out in a protected situation (a porch or patio) but always in the shade.

A Japanese black pine (*Pinus Thunbergii*) would be delightful with some of those entrancing wooden birds now being sent to us from the Scandinavian countries.

The Norway spruce (*Picea Abies*) is extremely variable in form, giving great scope in your choice of tree for house or garden. Zone II.

Picea Abies var. *conica* and *Picea Abies* var. *Clanbrasiliana* are two forms of this species which could be used, the former conical in form, and the latter more rounded and seldom more than 6 or 7 feet high.

The white spruce (*Picea glauca*) is pyramidal in form, with light bluish-green needles, and has a dense habit when young. Its variety, *Picea glauca* var. *densata*, is known as the Black Hills spruce, and grows more slowly than the type. Dr. Bailey says it is "one of the most desirable spruces for severe climates and when compact growth and attractive foliage are desired." Zone II.

The Colorado spruce (*Picea pungens*) is found in many varieties of color and dwarf habit. Zone II.

The Sitka spruce (*Picea sitchensis*) is very desirable because of the contrasts in its needles

which are bright green below and silvery-white above. Zone VI.

The firs have probably been used more than any other genera for Christmas Trees, perhaps because their branch tips resemble crosses. The alpine fir (*Abies lasiocarpa*) is one of the most beautiful of the genus. It has everything —form, character, attractive foliage. We have found it rather slow-growing.

The white, or Colorado fir (*Abies concolor*) will thrive in a drier situation than most. It withstood a week indoors without apparent effect.

The southern balsam fir (*Abies Fraseri*) is interesting in a collection but, according to Dr. Bailey, not a satisfactory garden tree. Those that we saw in a local nursery were thriving and looked interesting. Zone IV.

The Cascade fir (*Abies amabilis*) is hardy to Zone V and should do well west of the Cascades, but doesn't like a dry, exposed situation.

The English yew (*Taxus baccata*) is slow-growing, and would be for those who are interested in the unusual. Zone VI.

The Bristle-cone pine (*Pinus aristata*) would be another oddity but its interesting branching pattern makes it rather formal in feeling.

The mountain pine (*Pinus Mugo*) offers a number of forms which would be attractive in a tub or container.

The Deodar cedar (*Cedrus Deodara*) is certainly the last tree we would expect to use in this way, but one writer says this fast-growing evergreen may be kept in a container for four or more years.

The Lawson cypress (*Chamaecyparis Lawsoniana* var. *Allumii*) is known also as the Port Orford cedar. This slow-growing gray form is just one of the many beautiful garden forms of this native of the Northwest. Zone V. A more dwarf form of cypress would be *Chamaecyparis obtusa* var. *nana*.

The Japanese plume cedar (*Cryptomeria japonica* var. *elegans*) is unusually handsome when young and has the added virtue of bronzy-red foliage during the autumn and

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Robert Fortune

MRS. O. B. THORGRIMSON*

CHINA, so aptly called "The Mother of Gardens," has given the western world lavishly from her great stores of interesting, beautiful and useful plants. Horticultural literature has been enriched by the experiences written by travelers, plant hunters and writers from the earliest days down to the explorations of Reginald Farrer, Kingdon-Ward and E. H. Wilson and others of our own time. Their names are to be found in the nomenclature of plants in large and small gardens, in parks and botanical gardens.

Such names as Abbe David, Pere Jean Delavay, George Forrest, Augustine Henry and many others intrigue our interest and curiosity to know more about those who braved the perils of stormy seas, oriental diseases, savage attacks of natives, to discover and disseminate new and rare floral gems.

Happening by chance upon a two-volume edition of "Two Visits to the Tea Countries of China" (1852) led to a desire to know more of the author, Robert Fortune, whose name occurs so often in the lists of our most beautiful plants. He is credited with having introduced into the gardens of England and thus made available to the western world about one hundred and ninety plants, of which one hundred and twenty were new to science.

We found he was a trained horticulturist, a world traveler, the author of several books and the man most responsible for the introduction of the culture of tea into India, thus familiarizing England and her colonies with the use of tea as a beverage.

Foreigners were not welcome in China in those days, but after Fortune had acquired a speaking acquaintance of the language, he made his more extensive excursions into the interior disguised as a Chinaman with a pigtail down his back, gravely consuming his food with chopsticks and drinking his tea sans sugar or milk after the Chinese fashion.

*We are grateful to Mrs. Thorgrimson of our Editorial Staff for becoming interested in the life of Robert Fortune so that this article reaches our pages.

Owing to the hostile attitude of the natives, his early collections were from a very limited area and he was grateful for new plants from Chinese dealers and from the gardens of resident Englishmen or wherever he could find anything new or interesting.

Robert Fortune was born in Scotland in 1813 and died in 1880, so that many of the experiences he describes so graphically occurred about one hundred years ago. His early education was at the parish school, after which he served his apprenticeship in the gardens of a Mr. Buchan at Kelloe. He was then employed for some years at Moredun, near Edinburgh, before entering in 1839 the Royal Botanic Garden at Edinburgh under the famous William McNab. After two and one-half years McNab, never an easy man to please, recommended him as superintendent of the indoor plant department of the Horticultural Society's garden at Chiswick, near London.

In 1842, at the age of twenty-nine, he applied for the post and was appointed as the Society's collector in China. Three days before his departure on February 26, 1843, he was sent full instructions from the Secretary of the Society. E. H. M. Cox in his article on "Robert Fortune" in his interesting book "Plant Hunting in China" gives the entire text of the agreement made between the Society and Fortune, a document of more than five pages of printed directions and instructions, and at a salary of £100 a year and expense money to the amount of £500 held by Messrs. Dent and Company for the Society. At the end is written "Accepted. Robert Fortune." It certainly shows a brave and intrepid spirit to sign so formidable a document.

In 1842 treaty ports had been opened to foreign trade and Hong Kong ceded to the British, making it possible for him to enter the Celestial Kingdom. He visited China four times, 1843-45; 1848-51; 1853-56, and in 1861.

His first journey, as just mentioned, was

for the Horticultural Society; the next two for the East India Company for the purpose of introducing the tea industry into India, and the fourth (1861) was his own private enterprise.

On his first trip, after many adventures, including shipwreck, pirates, hostile natives and illness, he entered the city of Soo Chow disguised as a Chinaman. As a result of these travels he wrote "Three Years' Wanderings in the Northern Provinces of China, Including a Visit to the Tea, Silk and Cotton Countries, with an Account of Agriculture and Horticulture of the Chinese," published in 1847. As one writer has pointed out, the title "Northern Provinces" is somewhat misleading, as the farthest north he reached was Soo Chow and his main headquarters were at Shanghai, a little north of the 30th parallel. He had difficulty at first in obtaining plants from the native nurserymen as they were terrified lest he would seize their entire collections without paying for them. He finally asked a Chinese officer to explain who he was and what he wanted and that he would pay for everything he took. After unlimited patience he won their confidence and was able to obtain any plant in Shanghai.

Among the beautiful and interesting plants he sent home were the double yellow rose, the fan palm, Japanese anemone, many varieties of the tree peony, *Weigela rosea*, *Lonicera fragrantissima* and *Jasminum nudiflorum*. Other well-known plants were *Dicentra spectabilis*, the bleeding heart, *Platycodon grandiflorum*, *Forsythia viridissima*, *Ilex cornuta*, *Cryptomeria japonica*, as well as various azaleas and chrysanthemums.

In 1846 he was appointed curator of the Chelsea Botanical Garden but resigned after two years to return to China to collect seeds and plants of the tea plant for the East India Company. The first year he sent quantities of seed to Calcutta, some mixed with dry earth, some loose. He found that tea seed is very short-lived and hardly a seed of this shipment germinated. The following year he sowed seed among young mulberry plants and many of the germinated seeds survived.

To show the patience and persistence of the man, the next year he again collected seeds and plants and himself sailed to Calcutta with some two thousand young tea plants, seventeen thousand germinated seedlings, six expert tea makers and tea manufacturing equipment. In these days of fast transportation, the moving of so great a number of plants and seedlings does not seem a very difficult task, but in those days of slow travel the mere packing of all those plants and seeds was an enormous task, to say nothing of the care that had to be given them on the slow boats of that day.

One object of his study of "Tea Culture" was to obtain definite and accurate information about the plant itself and the methods used in curing the leaves.

After much travel and investigation of the tea plantations in various parts of the tea districts he came to the conclusion that all tea is derived from one species, or from two species differing so slightly as to be negligible, *Thea Bohea* and *Thea viridis*. Differences in the final product were due to climate and soil, but mainly in the method of curing the leaves.

A two-volume account, "Two Visits to the Tea Countries of China and the British Tea Plantations in the Himalayas," was published in 1852. In the preface he says, "My object . . . was to give to the reader a peep into the Celestial Empire; to show its strange hills and romantic valleys; its rivers and canals; the natural productions, whether in the fields or on the hillside or in the garden, and its strange and interesting people as they were seen by me in their every-day life. My adventures amongst the most remarkable and least-known people in the world, their manners and customs, the natural productions of the country insofar as they were of importance to man, and, above all, the mode of cultivating and making our own favorite beverage, tea, are included in the story."

In 1857 he published "A Residence Among the Chinese" in which he describes the culture of the silk worm. From this journey he sent home two very desirable plants that had been

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A Cruise to Six Famous Gardens

MRS. KERRY TRIMBLE*

May 12th-May 19th, 1954

THESE gardens were Bodnant in Wales, Castlewellan and Rowallane in Northern Ireland; Arduaine, Colonsay and Castle Brodick in the west of Scotland. As they share for the most part a climate milder than ours, and with a more generous rainfall, they had much in common in the planting, and yet each was different.

The cruise was planned by Dr. and Mrs. J. M. Cowan and sponsored by the Garden Committee of the National Trust of Scotland. The thoughtfulness of all connected with the arrangements, the beauty of the gardens and the magnificent scenery one remembers with gratitude. It was a week of sunshine, blue sky, blue sea and justly famous gardens.

Among these are gardens that have created many fine hybrids. There are several hundred listed in the Rhododendron Handbook from Bodnant alone. There it was especially interesting to see, for instance, "Elizabeth", "Bluebird" and "Fabia." A quality they all certainly shared was their naturalness. Enviable knowledge and taste had made an infinite variety of trees and shrubs look as though they truly grew there. Another impression of them in general was of woodland, gentle valleys and streams, and through varying greens of the wonderful old trees, a view of the sea and mountains.

Either in the valleys or protected by a wind screen of *Rhododendron ponticum* or other suitable planting, were the large foliage types of rhododendron such as *sinogrande*, *grande*, etc. There was a *R. giganteum* at Arduaine which was the first of this species to flower in Britain. In another garden (Brodick) *R. Macabeanum*, which is so beautiful in its leaf and April flowering, was completely circled by some hundreds of its seedlings. And close by were the early flowering *sinogrande* with their

20-inch leaves. There also were less exotic but no less difficult rhododendrons. In one garden (Bodnant) there was a round pool edged with, and reflecting, the soft pink of the there freely flowering *R. Williamsianum*. In another the white fragrant flowers of *R. bullatum* were set off beautifully against its dark green foliage with rich brown indumentum. There was the even less hardy *R. Lindleyi* covered with its waxy white flowers with their delicious scent of honeysuckle, and the equally lovely *R. "Lady Alice Fitzwilliam."*

There was pleasure in seeing for the first time—and then finding it again in another garden—the Chinese maple *Acer griseum* with its cinnamon-brown bark. It must be particularly striking in its vivid fall color. Close by, the polished red-brown bark of *Prunus serrula* matched it well. An English book on shrubs by Mr. W. Arnold-Forster names *Eucalyptus Gunnii* "as the only species which has so far proved reliably hardy in the fairly severe climate of Seattle." There its blue-green leaves and grey trunk were lovely indeed. A shrub with an equally smooth grey in the bark was the hybrid *Rhododendron Shilsonii* (*Thomsonii* x *barbatum*, 1900). Perhaps excelling these was a pair of *Arbutus andrachnoides* at Bodnant, a hybrid of the native Irish *Arbutus Unedo* and the Greek *A. Andrachne*.

The Chilean Firebush, *Embothrium longifolium*, or *coccineum*, was much admired with its lavish scarlet bloom particularly effective against the blue sky. The crimson lantern-shaped flowers of the Chilean evergreen shrub, *Tricuspidaria lanceolata*, were just showing color. One came upon a drift of Candelabra primulas, a bed of *Gentiana acaulis* or an unforgettable field of bluebells.

There were many more trees and shrubs that could be included in this list. But there was one especially, a tree at Castlewellan, which quite caught the imagination. It was a spruce, but to the uninitiated it looked to be a pine with unbelievably long needles. Bailey's Cyclopedias says of it, "without doubt the

*Mrs. Kerry Trimble, member of the Arboretum Foundation Board of Directors, brings us this interesting account of a part of her European tour early this year.

most graceful and elegant *Picea* is *P. Breweriana*, or weeping spruce, a native of the Siskiyou and Coast Ranges of mountains in Northern California and Oregon." It is described as being tall and symmetrical, with horizontal branches, and goes on to say, "but its distinguishing beauty is the long, pliant, pendulous branchlets which hang straight down from the branches to a length of six to eight feet and are no larger around than a lead pencil." Once seen that is not forgotten.

One would like to include even in such a superficial description a few other notes. There was the Donard Nursery in northern Ireland where Mr. Slinger pointed out some of his most excellent plants, the beautiful walled garden of Lady Vivian Younger in Edinburgh, and the most interesting garden of Mr. E. H. M. Cox at Glendoick in Perthshire. Mr. Cox will lecture in Seattle the evenings of October 18th and 19th to the Rhododendron Society and the Arboretum Foundation. It will be a rare and delightful opportunity to hear him and see his color films and slides of Scottish gardens.

* * *

Robert Fortune (Continued from Page 85)

found previously in cultivation in Peking, *Prunus triloba* and *Rhododendron Fortunei*, which has played such an important part in the creation of modern hybrids. He says, "In a romantic glen through which we passed I came upon a group of remarkably fine looking rhododendrons . . . and as the plants were covered with ripe seed, I was able to obtain a good supply to send home." They were sent to the nursery at Chiswick, where a good stock of young plants were raised and from whence the lovely *Rhododendron Fortunei* and its hybrids grace our gardens. He also sent various forms of *Rhododendron obtusum*.

In 1860, Fortune made his fourth and final trip to the Orient and his book, "Yedo and Peking," describes his travels in Japan. Although chrysanthemums were widely grown in England, he sent home a collection that caused a sensation.

Among plants he sent on this trip were

Aucuba japonica, umbrella pine, *Sciadopitys*, *Larix Kaempferi*, *Osmanthus ilicifolius*, *Deutzia scabra flore plena* and *Lilium auratum*. The latter had been sent out just a few weeks before he found it. He was very much pleased with *Primula japonica* and was able to secure seed.

Speaking of the azaleas that abound on the hillsides of the island of Chusan he says . . . "few can form any idea of the gorgeous and striking beauty of these azalea-clad mountains where, on every side as far as our vision extends, the eye rests on masses of flowers of dazzling brightness and surpassing beauty. Nor is it the azalea alone which claims our admiration; clematis, wild roses, honeysuckles and a hundred others mingle their flowers with them."

He arrived home in 1862 when his travels were finally over. Most of the remaining years of his life were spent in farming in his native Berwickshire. Occasionally an article of his would appear in the *Gardeners' Chronicle* and sometimes a flower show would attract his attendance.

The picture left in one's mind of Robert Fortune is of a rather dour Scotsman, wholly competent and wrapped up in his chosen occupation, strictly and absolutely honest in every thought and act, but without a gleam of humor to lighten his way. He was calm, patient and level-headed under any set of conditions. His kindness and gentleness enabled him to mingle with natives who were very suspicious of and antagonistic toward foreigners.

Horticulturists everywhere owe a debt of gratitude to Robert Fortune for his untiring efforts to enrich the gardens of the Western World with new and beautiful plants.

* * *

The newest piece of Arboretum equipment, which was a gift of the Arboretum Units, is a portable megaphone called the "Audio Hailer" to be used by guides in showing visitors through the Arboretum. It will enable the larger groups to hear all explanatory remarks about plant material, even those following from considerable distance.

The Arboretum Bulletin

VOL. XVII, No. 3 SEATTLE, WASH. FALL, 1954

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Special Notice

To keep memberships in the Arboretum Foundation in good standing, dues should be paid during the month payable. Active memberships more than three months in arrears will be dropped and THE BULLETIN will be discontinued.

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The Arboretum Foundation,
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I hereby apply for membership in the Arboretum Foundation and remittance for same is enclosed to cover dues for the next succeeding 12 months.

Name.....

Address

All memberships are non-assessable.

Notes and Comment

Visitors to the Arboretum

DURING June we had two noteworthy visitors, indicating the increasing importance of our Arboretum to other similar institutions.

One was Dr. W. J. Dress from the staff of the Bailey Hortorium of Cornell University, whose mission, extending over several months throughout the Pacific Northwest, was to gather information and material of the cultivated plants in this region, the former for incorporation in the forthcoming publication "Hortus III"; the latter for the Herbarium of the Bailey Hortorium.

The other, June 24-25, was Mr. H. J. Rhodes of the Dominion Arboretum, Ottawa, Canada, who is making a survey of the cultivated plants in British Columbia and wished to collect similar evidence of those growing here which might be of use farther north.

During July and early August noted visitors were: Mr. Toichi Domoto, well-known nurseryman of Hayward, California; H. D. Howell, Devon, England, and Mrs. Peter Stuart Bevan of London.

The visitors' register during this period also includes names from New Zealand, Switzerland, Western Australia and Vienna, Austria.

 * * *

The Arboretum Units will hold their annual Fall Plant Sale at the Arboretum on Thursday, October 28. Mrs. Frank Preston, Chairman, and Mrs. Frank Calvert, Co-chairman, announce that the list of sale items is growing and includes *Andromeda polifolia nana compacta*, *Camellia japonica* and *Sasanqua* varieties, *Clerodendrum trichotomum* (see fig. 13, page 81), *Daboecia alba* and *azorica*, *Elegagnus pungens Simonii*, *Eucryphia*, *Osmarea Burkwoodii*, *Rhododendron Cilpinense* (and others) *Styrax japonica* and *obassia*, *Viburnum Davidii* and *odoratissimum*. This is only a partial list of the many interesting plants to be offered. The public is invited. COME EARLY to insure a complete selection. Sale opens at 10:30 a. m.

Winter Issue, 1954

The Editorial Board of the BULLETIN has decided to devote most of the next issue to the subject of maples, an important though sometimes neglected group of trees containing many of considerable ornamental value, and of various sizes and forms which can be suited to most gardens as well as to park and street planting.

Among articles already promised are the following: "Maples in Japan," by Mr. Y. Matsuura; "Maples as Street Trees," by Mr. Edward Scanlon; "Maples in the Arnold Arboretum," by Dr. Donald Wyman.

There will also be records of the principal species raised from seeds in the Arboretum, with illustrations of many typical leaves, notes from the Seattle Park Department of various species to be found in the city, and other information on this family of handsome and useful trees.

* * *

Mr. E. H. M. Cox of Perthshire, Scotland, noted plant hunter and author, will address the members of the Arboretum Foundation at the Annual Membership meeting to be held in the auditorium of the Women's University Club, October 19, 8:15 p. m. Mr. Cox will speak on "Scottish Gardens" and will illustrate his talk with color film. The meeting is open to all members of the Arboretum Foundation and interested friends.

* * *

The Arboretum in Spring and Summer, 1954

(Continued from Page 71)

of which 84 per cent came from abroad. Over 2,500 packets were sent out during the spring.

Staff

In June we lost the services of an excellent secretary, Mrs. Eleanor Busby, who left us after marriage to live in Alaska. Her place has been filled by Mrs. Rosalie Tempest.

John Ross, who had been an equipment operator in the crew since June, 1949, left us in July. To replace him we have again hired Richard Hart who was previously with us in 1949-51. We have also regrettably lost Willard Jue, employed as a gardener since December, 1953, to the College of Pharmacy of the University. To fill his position we have obtained Gerhardt Gilbert from the janitor's staff in the University. These changes are inevitable in an institution of this kind, but we prefer, if possible, to keep them to a minimum since by experience men become progressively more valuable to us and are then not easily replaced.

An Appraisal of Rhododendrons

(Continued from Page 78)

as a Japanese garden fits theirs. Such gardens would be pre-eminently rhododendron gardens. They would make Seattle the Rhododendron City of America.

I wish someone would offer an annual prize for the three best Northwest rhododendron gardens. Yes, and ribbon awards for the best small groupings open to the smallest garden. Think of the publicity you would receive. Think of the help this would be to new gardeners. Think of the new beauty you would create.

Again I wonder if you realize the wealth at your disposal. I wonder if you realize the responsibility that goes with it. It is nice to get together in our various organizations and pat each other on the back. But does our responsibility end here? You have the climate to grow them. You are in the forefront of the greatest movement ever known in garden history. You are dealing in jewels which only await the proper settings to awake America to new beauty.

* * *

Eucalyptus for the Washington, Oregon, Vancouver, Seaboard Region

(Continued from Page 75)

tried first. Provided the mixture is sandy and not too rich any good potting soil will do to raise the seedlings. Some nurseries keep the seedlings in pots or tubes in the open for the first winter to find the hardiest strains and plant out the survivors in the final site. Seedlings quickly become pot-bound, so planting out should not be too long delayed, and above all, the final site must be a well-drained one.

I would like to thank Mr. B. O. Mulligan, Director of the Seattle Arboretum; Mr. W. H. Warren, Park Administrator, Victoria, B. C.; Mr. S. R. Forrest, 1406 Lonsdale Avenue, N. Vancouver, B. C., and Mr. H. B. Benny, 268 View Royal Avenue, Victoria, B. C., for much useful information and many stimulating letters.

ARBORETUM NOTEBOOK

This department is published for correspondence and pertinent comments by experienced growers on interesting plants and their culture. We solicit your questions but space limitation necessitates the publishing of only such answers as we deem of general interest.

GARDEN HINTS . . .

SEPTEMBER

A most important month in the garden.
Prune the rambler roses.
Begin planting bulbs.
Take cuttings of bedding plants.
Divide over-grown clumps of plants.
Seed the lawn.

When choosing species bulbs it is well to choose thoughtfully. They will come up year after year and by adding more of the same each year there may, eventually, be a great drift, making a picture in the garden envied by all visitors. Such a planting may be more satisfying than a mixed planting of many different species. To suggest a few—*Galanthus nivalis* (Snowdrops), *Narcissus Bulbocodium conspicuum* (Yellow Hoop Petticoat), *N. triandrus albus* (Angel's Tears), *Tulipa tarda* and *T. Clusiana* (Lady Tulip).

Penstemons are now at their height and few plants repay the gardener better for the small amount of labor he gives them.

The Lacecap section of the Hydrangeas is valuable in all gardens for summer and fall bloom. The flower head is composed of a central portion of fertile flowers surrounded by strikingly colored, sterile ray flowers. The colors vary in charming combinations. They follow the azalea season, growing eventually into large, long-lived shrubs needing little care. They are almost entirely free from pests although it is wise to protect small plants in gardens greatly infested with slugs. This group is contained in the large hybrid *macrophylla* section. The variety "White Wave" received the award of merit from the R. H. S. in 1948. It has a distinct central portion of blue or pink fertile flowers surrounded by eight large, stunning white (faintly flushed pink) ray or sterile flowers. In an open position it is a mass of bloom. In a woodland it is more sparsely flowered but perhaps more appealing.

Lysimachia clethroides is one of the pleasantest fall blooms. It comes late and its habit of bending its head only adds to its fine foliage and pleasing disposition. The small blooms form a long, drooping, white spike. It does well in a shady woodland, along a waterside or in a late perennial border.

OCTOBER

Lavender is usually increased by cuttings (six inches long) taken from new growths in October. They should be placed six inches apart and transplanted when well rooted in early spring. Deep planting is essential, leaving only two inches above the ground, and the soil around them well firmed.

The shrubby hypericums, St. John's worts, are some of the most fascinating late-summer and autumn-blooming shrubs. There are several varieties but the one most often seen and the best for general purposes is *H. patulum*. This name covers a series or group of several varieties. They grow erect, four to six feet high, with long pendulous branches festooned with golden-yellow blossoms two to three inches across, with the usual mass of yellow stamens found in all of this family's blossoms. After the flowers are gone, the seed pods, interesting in shape, finally become a shining red. They are ornamental as single bushes but may be used to advantage in groups of three or four, or as ornamental hedges back of a perennial border.

List the disappointments that have been in your garden this past year and try to guard against them next year.

Wallflowers, violas, primroses, forget-me-nots and other early blooming spring plants should be planted now so they may be well established before cold weather.

NOVEMBER

November is probably the best month of the whole year for planting deciduous shrubs.

When buying shrubs this fall do not over-

look the Pearl bushes (*Exochorda*). They give full satisfaction with little effort on the gardener's part. There are several varieties but *E. racemosa (grandiflora)* blooms in May and *E. macrantha* may be a little earlier.

Seedling lilies that have reached flowering size may now be planted in their permanent places. When buying lily bulbs insist they have roots that are lively and not dry. They should be planted immediately, before the roots shrivel.

Speaking of lilies, our West Coast has become one of the largest areas in the world to raise lilies. The Jan de Graaff and the Bellingham hybrids are just at our door and the bulbs do not have to endure the long journey from Japan, Holland or the East Coast.

* * *

As we become "horticulturists" as well as "gardeners" we find a necessity for accurately identifying our plants. Mountain laurel is not a laurel, mountain ash is not an ash and the "geranium" in our gardens or on our window-sill is properly called a pelargonium. So we begin to feel the need of a name that can identify a plant whether in Hawaii, Japan, France or in our neighbor's garden and feel reasonably certain we are naming the plant correctly. Scientific names, which are used all over the world, are not difficult when we understand some prefixes or terminations such as the following: grandi—usually means large; gymn—naked; alba—white; circum—round; oides—like; phyll—leafed; pod—footed. A little thoughtful determination will soon add an unbelievable interest to gardening.

* * *

Miss Gertrude Jekyll, the famous English gardener, used in a "gray garden" *Santolina*, *Stachys*, white carnations, lavender, *Nepeta*, *Echinops* (to mention only a few) and for accent plants she places yuccas at strategic points. A "one-color-garden" is fascinating to plant and gives the possibly jaded gardener a new interest.

* * *

Mrs. Benjamin Purrington, on Bainbridge Island, has pleasantly solved a problem many

of us have encountered. She has planted seeds of Canary-bird vine (*Tropaeolum peregrinum*) at the base of *Clematis Armandi* where the stems are bare. This charming annual climber is smothered in summer, from July first through the season, with a mass of pale yellow, interesting little flowers. It is easy to remove from the clematis in fall when the frost blackens it and it has provided a much-needed addition to an otherwise green wall, making its way high among the shining leaves of the clematis.

* * *

Choisya ternata, the "Mexican Orange," is seldom used as a hedge but when grown well it makes a dense mass of fresh green with interestingly shaped leaves and charming corymbs of fragrant, white flowers. The height of bloom is in late April and May but there are some blooms throughout the summer and well into autumn. It grows well in shade as well as in partly sunny locations, and needs only occasional cutting to keep back long, straggly growths.

* * *

The *Saxifragaceae* family takes its name from one of its members, *Saxifraga*, a Latin name meaning "rock-breaking," as many of the species grow on rocks and thrust their roots into crevices, thus "breaking" the rocks. The *Saxifragaceae* family includes about seven hundred varieties of plants and shrubs including *Deutzia*, *Hydrangea*, the gooseberry and currant groups, *Heuchera*, and many wild flowers such as mitrewort (*Mitella*), foam-flower, (*Tiarella*), and grass of Parnassus (*Parnassia*), to name only a few.

* * *

Question: I would like some advice about my Christmas Rose. This year it has had many blossoms, beginning in October, but they are very short-stemmed and rather small and close together. Then they began to turn black and seemed to rot off the stems. Even the best ones were spotted with black. Should I spray them, and if so, with what? Should the plants be divided? They are about four years old.

Answer: I would advise you to lift these

plants, wash them in water thoroughly, and then soak them in potassium permanganate solution (half an ounce to one gallon of water) for an hour. It would also be advisable, of course, to remove any diseased parts which you can see, then replant them in fresh ground away from where they were previously. As a precaution, you could also soak the soil where they are to be planted with the same potassium permanganate solution.

What is a "Round Robin"? In garden vernacular, it is a group of persons with an interest in some particular plant or group of plants, who pool their knowledge by writing letters, and as it makes the "round" they remove their previous letter, insert a new one and send it on to the next person on the list. Each group is comprised of ten to twelve, each person sending the "Robin" on in four days so as to quickly make the round. Usually the "Robins" cover certain sections of the United States, but very often will go across the country and into Canada. There are "Robins" on African violets, iris, species iris, ferns, wild flowers and many others.

The Penstemon Society operates to a large extent through its "Round Robins", of which there are some dozen or so scattered throughout the United States. These people have pioneered the field of penstemon culture for garden use and have made extensive experiments with penstemons and their behavior in various parts of the country. Each "Robin" has a director and the directors in turn have a "Robin" of their own, which brings together the knowledge gleaned from sectional "Robins." From these data a bulletin is compiled once a year for members of the Society.

Robins are of especial value to those people who may not have contact with others of similar interests. In addition, a good deal of plant and seed exchange takes place among the members.

(MRS.) ALTHA I. MILLER

Not ours to trace the loveliest flower,
Nor translate into Melody
The music of a leafing tree.

—*Deo Gratias*

List of Names

(Continued from Summer, 1954)

<i>myriacanthus</i>	many-spined
<i>myriocarpus</i>	many-fruited
<i>myriocladus</i>	many-branched
<i>Myriophyllum</i>	Greek, many-leaved
<i>Myristica</i>	Greek smelling of myrrh
<i>myrmecophilus</i>	ant-loving
<i>Myrrhis</i>	Greek, perfume
<i>myrsinifolius</i>	myrsine-leaved
<i>Myrsine</i>	old Greek name for myrtle
<i>myrsinoides</i>	myrsine-like
<i>myrtifolius</i>	myrtle-like
<i>Myrtillocactus</i>	dim. of myrtle and cactus
<i>Myrtus</i>	ancient Greek name
<i>Mystacidium</i>	Greek, bearded appendages
<i>Naegelia</i>	for Prof. Karl van Naegeli, German botanist
<i>Nakaharai</i>	for G. Nakahara
<i>nakotiltum</i>	having the wool plucked off
<i>Nandina</i>	Japanese name
<i>nanellus</i>	very dwarf
<i>Nannorhops</i>	dwarf bush
<i>nanothamnum</i>	dwarf shrub
<i>nanus</i>	dwarf
<i>napiformis</i>	turnip-shaped
<i>narcissiflorus</i>	narcissus-flowered
<i>Narcissus</i>	ancient Gr. name
<i>Nasturtium</i>	classical name for some cress
<i>nasutus</i>	large nose
<i>natans</i>	floating, swimming
<i>nauseosus</i>	nauseating
<i>navicularis</i>	boat-shaped
<i>neapolitanus</i>	Neapolitan, from Naples
<i>nebulosus</i>	clouded, obscure
<i>neglectus</i>	neglected, overlooked
<i>nelumbifolius</i>	nelumbo-leaved
<i>Nelumbo</i>	Singhalese name
<i>Nemastylis</i>	Gr., thread-like styles
<i>Nemesia</i>	old name used by Dioscorides
<i>Nemopanthus</i>	Gr., thread-like flower-stalk
<i>Nemophila</i>	Gr., grove-loving
<i>nemoralis</i>	of groves or woods
<i>Nepenthes</i>	ancient Gr., removing sorrow
<i>Nepeta</i>	ancient Lat., perhaps from Nepi in Italy
<i>nepetoides</i>	nepeta-like
<i>Nephrolepis</i>	Gr., kidney-scale
<i>neriifolius</i>	oleander-leaved
<i>Nerine</i>	a water nymph of Greek mythology
<i>Nerium</i>	ancient Gr. name
<i>Nertera</i>	Gr., lowly
<i>nervosus</i>	nerved
<i>Nicandra</i>	for Nicander, writer of Colophon
<i>Nicotiana</i>	for Jean Nicot, French consul in Portugal
<i>nictitans</i>	nodding
<i>nidus</i>	nest
<i>Nierembergia</i>	for John E. Nieremberg, Spanish naturalist
<i>Nigella</i>	diminutive of niger, black
<i>niger</i>	black
<i>nigratus</i>	blackened
<i>nigrescens</i>	becoming black
<i>nigricornis</i>	black-horned
<i>nigrofructus</i>	black-fruited
<i>nigripes</i>	black-footed
<i>nigropunctatum</i>	marked with black spots
<i>nilagiricum</i>	from the Niligiris

<i>niloticus</i>	of the Nile	<i>ochraceus</i>	ochre-colored
<i>Nipa</i>	native name in Molucca	<i>ochreatus</i>	with an ochrea or sheath
<i>niphargum</i>	snowy-white	<i>ochroleucus</i>	yellowish white
<i>nipponicus</i>	of Nippon (Japan)	<i>Oicum</i>	old Gr. name
<i>nitidulum</i>	shining	<i>octandrus</i>	with eight anthers
<i>nitens, nitidus</i>	shining	<i>octopetalus</i>	eight-petaled
<i>nivalis</i>	snowy	<i>octophyllus</i>	eight-leaved
<i>niveum</i>	snow-white	<i>oculatus</i>	eyed
<i>nivosus</i>	full of snow	<i>ocymoides</i>	ocimum-like
<i>nmaiense</i>	from the Nmai Hka valley	<i>odessamus</i>	of Odessa
<i>nobilis</i>	noble, famous	<i>Odontioda</i>	compounded from Odonto-
<i>nobilissimus</i>	very noble		glossum and Cochlioda
<i>noctiflorus</i>	night-flowering	<i>odontochilus</i>	with toothed-lip
<i>nocturnus</i>	of the night	<i>Odontoglossum</i>	with toothed-tongue
<i>nodiflorus</i>	with flowers at nodes	<i>odoratissimus</i>	very fragrant
<i>nodosus</i>	with nodes, jointed	<i>odoratus</i>	odorous, fragrant
<i>nodulosus</i>	with small nodes	<i>odoriferum</i>	fragrant
<i>Nolana</i>	from nola, a little bell	<i>Oenothera</i>	Gr., wine-scenting
<i>Nolina</i>	for P. C. Nolin, French agricultural writer	<i>officinalis</i>	officinal, medical
<i>noli-me-tangere</i>	touch-me-not	<i>officinarum</i>	of the apothecaries
<i>Nopalea</i>	Mexican name of some Opuntias	<i>Oldhamii</i>	for Richard Oldham
<i>norvegicus</i>	Norwegian	<i>oleaefolius</i>	olive-leaved
<i>notatus</i>	marked	<i>Olearia</i>	for J. G. Olearius
<i>Nothofagus</i>	Gr., false beech	<i>oleifera</i>	oil-bearing
<i>Notholaena</i>	Gr., a false cloak	<i>oleoides</i>	olive-like
<i>Nothoscordum</i>	Gr., false garlic	<i>oleraceus</i>	vegetable garden herb
<i>novae-angliae</i>	of New England	<i>oliganthus</i>	few-flowered
<i>novaezealandiae</i>	of New Zealand	<i>oligocarpus</i>	few-fruited
<i>novibelgii</i>	of New York (New Belgium)	<i>oligophyllus</i>	few-leaved
<i>nubiculus</i>	dwelling among clouds	<i>oligospermus</i>	few-seeded
<i>nubigenus</i>	cloud-born	<i>olitorius</i>	pertaining to vegetable gardening
<i>nucifera</i>	nut-bearing	<i>olivaceus</i>	olive-like
<i>nudicaulis</i>	naked-stemmed	<i>olivaeformis</i>	olive-shaped
<i>nudiflorus</i>	naked-flowered		
<i>nudus</i>	nude, naked		
<i>numidicus</i>	of Numidia, N. Africa		
<i>numismatus</i>	pertaining to money		
<i>nummularifolius</i>	money-leaved		
<i>nummularius</i>	money-like		
<i>nutans</i>	nodding		
<i>Nuttallii</i>	for Thos. Nuttall, English plant collector		
<i>nyctagineus</i>	night-blooming		
<i>Nyctanthes</i>	night-flower		
<i>Nyctocereus</i>	night and cereus		
<i>Nymphaea</i>	from mythological name, Nymph		
<i>nymphaeoides</i>	nymphaea-like		
<i>Nyssa</i>	name of a water nymph		
<i>obconicus</i>	inversely-conical		
<i>obcordatus</i>	inversely-cordate		
<i>obesus</i>	obese, fat		
<i>obfuscatus</i>	clouded, confused		
<i>oblanceolatus</i>	inversely lanceolate		
<i>obliquus</i>	oblique		
<i>oblongatus</i>	oblong		
<i>oblongifolius</i>	oblong-leaved		
<i>oblongus</i>	oblong		
<i>obovatus</i>	inverted ovate, obovate		
<i>obscurus</i>	obscure, hidden		
<i>obsoletus</i>	obsolete, rudimentary		
<i>obtusatus</i>	obtuse, blunt		
<i>obtusifolius</i>	obtuse-leaved		
<i>obtusilobus</i>	obtuse-lobed		
<i>obtusior</i>	more obtuse		
<i>obtusus</i>	obtuse, blunt, rounded		
<i>occidentalis</i>	western		
<i>ocellatus</i>	with small eyes		
<i>Ochna</i>	old Gr., name for wild pear		
<i>ochnaceus</i>	ochna-like		

(To be Continued)

RHODODENDRONS

Large, well-developed, healthy plants
for immediate effect . . . Plant now.

AMY
BEAUTY OF LITTLEWORTH
BETTY WORMALD
BOWBELLS
BUTTERFLY
CORONA
DAWN'S DELIGHT
EARL OF ATHLONE
GILL'S CRIMSON
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A Christmas Tree With a Future

(Continued from Page 83)

winter. *C. japonica* var. *nana* is a dwarf form which is densely branched.

Though not one of the Gymnosperms, the English Holly (*Ilex Aquifolium*), in either its types or the variegated form, would need little added decoration if it was well-berried.

With these to choose from we should find a fresh approach to an old tradition. Let's have a Merry Christmas Tree with Many Happy Returns.

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Sunset Magazine. *A Child-size Living Tree in a Pot or Tub*. December, 1952.

Book Reviews

The Villa Taranto, by Neil McEacharn. Published by Country Life Ltd., London, 1954. Price 25 shillings, 88 pages.

After owning and developing for twenty years his beautiful Galloway House gardens in Scotland Captain McEacharn in 1930 bought a rather rundown 100-acre estate in northern Italy on the shores of Lake Maggiore. This book is a very readable account of his trials, tribulations and success in establishing what must be the most interesting and possibly the most beautiful garden in Italy. Some fifty-five photographs accompany the captain's descriptions of the gardens and comments on the thousands of varieties of trees and flowering shrubs he has acquired from many parts of the world. A visit to these gardens, now open to the public, should be made by anyone in Italy during the spring or summer (April 1 to October).

With summers dry and hot (to 95 degrees F. in the shade) and winters with temperatures of 12 to 15 degrees above zero for weeks at a time, one learns that gardenias of several species, 15 species of *Eucalyptus*, oleanders, lagerstroemias, caesalpinias and punicas are winter hardy. The explanation for so many plants normally considered to be tender showing no signs of distress in the winter is that they receive such a baking during the long, hot, dry summers that the wood becomes sufficiently ripened to withstand frost. Quaere: Why do his eucryphias, which are entirely hardy here, suffer winter damage?

One marvels, too, that Captain McEacharn is able to grow rhododendrons and azaleas, including Kurumes and obtusums, with the success shown by the illustrations. Even *Maddeni* and *grande* rhododendrons apparently survive the cold winters. I surmise that the rhododendrons are grown with protection from sun and wind and that the sprinkler system keeps them damp in summer. Rhododendrons apparently can cope with far worse climatic conditions than many of us thought possible.

For those who want to improve their gardens with rare and beautiful flowering plants, the list of "Plants of Special Interest" in the appendix can be read with interest and profit.

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Report on Arboretum Winter Damage—1953-54

(Continued from Page 80)

R. taronense. We lost plants of the Bottle Brush, *Callistemon speciosus*; the Lion's Ear, *Leonotis leonurus*; and several *Leptospermums* from the wall plantings around the office and greenhouse during this period. These plants had flourished since at least 1951, and had survived the snow and cold of January.

The late frost of 31° F. which occurred on May 1 did little permanent damage, although it was very hard on the *Rhododendrons*, nipping open flowers and nearly open buds. We were fortunate to find enough undamaged plants for the Rhododendron Show that weekend.

Below is a partial list of plants either killed or badly damaged during the winter of 1953-54:

KILLED

Acacia melanoxylon
Acacia armata
Clianthus puniceus
Coronilla glauca
Diplacus aurantiacus
Leonotis leonurus
Rhododendron taronense

BADLY DAMAGED

Acacia decurrens
Callistemon speciosus
Coronilla glauca pygmaea
Leptospermum scoparium vars.
Lyonthamnus asplenifolius
Rhododendron scopolorum
Rhododendron Lindleyi
Sophora tetrapetra

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The Arboretum Seed Exchange

J. A. WITT

ONE of the more interesting functions of the Arboretum is the collection and distribution of seeds through the International Seed Exchange. This is an informal organization among the world's Arboreta, Botanic Gardens and other institutions with surplus seed to exchange.

Seeds are collected each fall from plants which produce a heavy crop and from those which may be of special interest to other members of the seed exchange. Past experience has taught us which seeds will be the most popular and we try to collect in proportion to this demand. Often, however, seeds turn out to be more popular than anticipated when we have collected only enough for limited distribution. The majority of seed is collected in the Arboretum, although perhaps one-third is gathered in field trips throughout the state.

As the seeds are collected, they are cleaned and stored. A printed list of all the varieties collected is prepared—The Index Seminum of the University of Washington Arboretum. This list is sent to other members of the International Seed Exchange about the first of December and their lists are sent to us in return.

Shortly after the first week in January the requests for seed or "desiderata" begin to come in, reaching a peak about the first of March and ending soon after the middle of April. Requests are filled on a first-come-first-served basis, which means that seeds in great demand and short supply are soon exhausted.

Some interesting statistics on the seed exchange of 1953 show that we sent the Index Seminum to about 180 institutions of which 45 are in the United States, the rest are foreign. We received Index Semina from about 100 in return. Of those 100 lists we ordered seed from 28. We received a total of 103 desiderata of which 87 were foreign and 16 domestic, and sent out 2,500 packets of seed.

Our seed list offered 358 different kinds of seed, of which 45 were species of *Rhododendron* and 22 were species of roses.

The seeds of our northwest native plants were in the greatest demand. Our two species of Elderberry, *Sambucus callicarpa* and *S. coerulea*, for example, totaled 38 requests between them. The seed which had the most requests was the alpine lily, *Erythronium montanum*, with 28 requests, followed by another alpine native, *Douglasia laevigata*, with 27.

Of the tree seed, the noble fir, *Abies procera*, led with 26 requests, followed by the Pacific Dogwood, *Cornus nuttallii*, with 25. The Madrona, service berry, Paper birch and Manzanita species were among the other popular native trees and shrubs. Among the least requested seeds were the Roses and the *Cistus* species (Rock Roses).

The seed list is most rewarding to the Arboretum despite the work entailed—many of our choice specimens came from seed received through the exchange, and we can distribute our more interesting species to others via this same channel.

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